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## (54) DIELECTRIC CERAMIC MATERIAL AND MULTILAYERED CERAMIC PARTS

### (57)Abstract:

**PURPOSE:** To provide a dielectric ceramic material practically sufficient in the microwave dielectric characteristics such as dielectric constant, a dielectric loss a resonance frequency temperature coefficient and capable of lowering firing temperature and also provide multilayer ceramic parts having excellent characteristics such as high Q-value as a resonator.

**CONSTITUTION:** A dielectric ceramic material has such constituents that when the main component is expressed by a composition formula  $x\text{BaO}.y\text{TiO}_2.z\text{Nd}_2\text{O}_3$ , there is a relation  $7 \leq x \leq 25$ ,  $55 \leq y \leq 78$  and  $10 \leq z \leq 25$  where  $x+y+z=100\text{mol\%}$ , and  $\text{Bi}_2\text{O}_3$  0 to 15wt.%,  $\text{MnO}$  0.5 to 1.5wt.%, glass 4 to 25wt.% are added to the main component. Further, in the case a dielectric ceramic material and an inner conductor material are simultaneously fired so as to obtain a multilayer ceramic part, firing is performed desirably at higher temperature than a melting point of the inner conductor material and under the condition of oxygen partial pressure not exceeding  $5 \times 10^{-2}\text{atm}$ .

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